

REMARKS

Referring to the Action, the Office has removed the rejections that were made in the Final Action of March 13, 2008, and is now rejecting the claims under 35 U.S.C. § 103(a) as being unpatentable over Ragarude, JP 2001-293016, discussed in the "Background" section of the present application and identified as Patent literature 1, in view of Tapper, U.S. Patent No. 6,600,950; Ishikawa, U.S. Patent No. 4,149,533; and Goble et al, U.S. Patent No. 5,944,715 ("Goble"); or Fischer, U.S. Patent No. 7,040,893.

The position of the Office in the rejection is that Ragarude discloses each of the elements of the method of the present invention as recited in claims 1 and 9 except that Ragarude does not disclose conducting with a current for 8 to 30 seconds; does not disclose the drug solution (retained and supplied) in the positive electrode in the form of a brush and containing an amphoteric surface active agent; and does not disclose a second solution (retained and supplied) in the form of a sponge and containing a sodium chloride solution having a concentration of 1 to 3%. The teaching references (i.e., Tapper, Ishikawa, Goble and Fischer) are cited as teaching the obviousness of these elements.

The rejection is not proper because, first, the Office's characterization of Ragarude is not correct and the proposed

modification of Ragarude will not result in the method of the claimed invention as recited in claims 1 and 9. The Office identifies Ragarude as disclosing contacting a body tissue in the vicinity of the lesion with a second solution retained by a negative electrode section (Action, page 3, lines 3-4). However, the negative electrode section of Ragarude is attached to a part of the patient such as the wrist. Ragarude does not disclose a negative electrode section retaining a second solution.

For this reason alone, the rejection is improper and should be removed.

Second, the Office has combined a plurality of references based on a hindsight construction of the method of the present invention. The prior art, itself, as it must to support the 35 U.S.C. § 103(a) rejection, does not provide a motive to combine the secondary (i.e., teaching) references with Ragarude as proposed by the Office.

In this regard, it is noted that claims 9 and 12 have been amended to precisely recite the amphoteric agent contained in the drug solution retained by the positive electrode section in the method of the present invention as having a sterilizing and disinfecting effect. This amendment is supported by the description in the specification of the present application in

paragraphs [0042] and [0082] (please refer to the publication of the present application, U.S. Patent Application Publication No. 2004/0186418).

According to the method of the present invention as recited in claim 9 and claim 12, it is possible to treat an affected part, including deep layer parts that are difficult to treat by supplying a specified drug solution and a liquid solution. In the method of the present invention, the drug solution and liquid solution are held in a retainer (brush and sponge) attached to the tip of both electrodes, and since supplying them is possible, there can be a large reduction in the treatment time.

The main ingredient of the drug solution is an amphoteric surface active agent having a sterilizing and disinfecting effect. Using this agent, sterilization and disinfection can be carried out without side effects.

Furthermore, a 1 to 3% aqueous solution of sodium chloride is used for the liquid solution. By making the concentration high, iontophoresis for the amphoteric surface active agent may be carried out efficiently.

Comparison of the Invention as Recited in the Claims of the Present Application with the References Cited in the Action

(1) Ragarude describes dental sterilization using iontophoresis.

(2) Tapper describes the carrying out of treatment by iontophoresis using a amphoteric surface active agent.

(3) Ishikawa describes iontophoresis of sodium fluoride.

(4) Goble and Fischer describe iontophoresis where a brush is attached for cleaning teeth.

However, in Tapper, it is described in Col. 6, lines 42-51, that the electrical supplying of the surface active agent to the location where it is supplied can effectively improve the permeability over any drug solution or disinfectant solution. In addition, in column 13, lines 59 - 63, it is described that the supplying of the drug solution can be carried out effectively by improving the permeability and penetrability in the surface active agent specifications. In other words, the amphoteric surface active agent in Tapper is provided so as to improve the permeability and penetrability of another drug - not to provide a sterilizing and disinfecting action.

In addition, the concentration of amphoteric surface active agent used in the invention in Tapper is as low as about 0.005 to 0.01%. Conversely, to use the amphoteric surface active agent for a sterilizing and disinfecting effect, in the present invention the concentration must be sufficiently high, e.g., as high as 3% (see paragraph [0081]. Therefore, the object as well as the

accompanying action and effect in Tapper and the invention in the present application are different.

In Ishikawa, the object of using the sodium fluoride is preventing decay - sterilization and disinfection is not the object. A person of ordinary skill in the art would not have been motivated, based on Ishikawa, to replace sodium fluoride with sodium chloride, which is not known to prevent decay, and to then modify Ragarude (assuming, arguendo, such modification to be possible).

The brushes in Goble and Fischer are not provided for holding a drug solution and, again, there is no basis in the absence of the present disclosure, to modify Ragarude based on the teachings of Goble and Fischer.

Moreover, the present invention has the characteristic feature that both sodium chloride and an amphoteric surface active agent, which has a sterilizing and disinfecting action, are used in combination at the same time. This feature is neither disclosed nor suggested in any of the references, alone or in any combination, and the Office has not provided any reasoning supported with some rationale underpinning to support a conclusion of the obviousness of using such a combination in a method for sterilizing and disinfecting a body tissue using iontophoresis.

For these reasons also, the method of the present invention would not have been obvious within the meaning of the requirements of 35 U.S.C. § 103(a) from the proposed combination of Tapper, Ishikawa, Goble and Fischer with Ragarude.

The references fail to support a case of prima facie obviousness of the method of the present invention and removal of the 35 U.S.C. § 103(a) rejection is in order and is respectfully solicited.

The foregoing is believed to be a complete and proper response to the Office Action dated August 22, 2008.

In the event that this paper is not considered to be timely filed, applicant hereby petitions for an appropriate extension of time. The fee for any such extension and any additional required fees may be charged to Deposit Account No. 111833.

Respectfully submitted,
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